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LII. *Some Account of an Oil, transmitted by Mr. George Brownrigg, of North Carolina. By William Watson, M. D. R. S. S.*

To the ROYAL SOCIETY.

GENTLEMEN,

Read Dec. 14, 1769. **T**HE application of natural productions to the benefit of mankind, has always been an object of our excellent institution; and endeavours to extend the utility of substances already very obscurely known, have always met from you a favourable reception.

It is with this view, that I lay before you some pods of a vegetable, and the oil pressed from their contents. They were sent from Edenton, in North Carolina, by Mr. George Brownrigg, whose brother, Dr. Brownrigg, is a worthy member of our Society; and are the produce of a plant well known, and much cultivated, in the Southern colonies, and in our American sugar islands, where they are called ground

nuts, or ground pease. They are originally, it is presumed, of the growth of Africa, and brought from thence by the negroes, who use them as food, both raw and roasted, and are very fond of them. They are therefore cultivated by them in the little parcels of land set apart for their use by their masters. By these means, this plant has extended itself, not only to our warmer American settlements, but it is cultivated in Surinam, Brasil, and Peru.

The plant, which produces these, has been mentioned, and described, by the botanical writers of the later times. Ray, in his History of Plants, calls it *Arachis Hypogaios Americanus*. It is the *Arachidna quadrifolia villosa* of Plumier. Sir Hans Sloane, in his History of Jamaica, calls it *Arachidna Indiæ utriusque tetraphylla*. Piso and Marcgraac both mention it among the Brasilean plants, under the name of *Mundubi*. Linnæus has constituted a genus of this plant, of which only one species is as yet known, under Mr. Ray's generical name of *Arachis*.

This plant, together with a very few of the trifoliate tribe, has the property of burying its seeds under ground, which it does in the following manner. As soon as the plant is in flower, its flower is bent towards the ground until it touches it. The pointal of the flower is then thrust into the ground to a sufficient depth, where it extends itself, and forms the seed-vessel and fruit, which is brought to maturity under ground, from whence it is dug up for use.

This plant, which is a native of warm climates, will not bear being cultivated to advantage in Great-Britain, or in the northern colonies; but, according to Mr. Brownrigg, in southern climates its produce

is prodigious ; and what adds to its value is, that rich land is not necessary for its cultivation, as light sandy land, of small value, will produce vast crops of it. Besides what the negroes cultivate for their own use, some planters raise a considerable quantity of it, for the feeding of swine and poultry, which are very fond of the ground pease ; and, when they are permitted to eat freely of them, soon become fat.

Mr. Brownrigg, from whom, as I before mentioned, I received the oil, considers the expressing oil from the ground pease, as a discovery of his own : it may, perhaps, at this time, be very little practised either in North Carolina, the place of his residence, or elsewhere. But certain it is, that this oil was expressed above fourscore years ago ; as Sir Hans Sloane mentions it, in the first volume of his History of Jamaica ; and says, that this oil is as good as that of almonds. It is probable, however, that small quantities only were expressed, and that even at that time the knowledge of it did not extend very far. Mr. Brownrigg therefore is highly praise-worthy in reviving the remembrance of procuring oil from these seeds. It is obtained, by first bruising the seeds very well, and afterwards pressing them in canvas bags, as is usual in procuring oil from almonds or linseed.

To have the oil in the best manner, no heat should be used. The heating the cheeks of the press increases the quantity of the oil, but lessens its goodness, where it may be intended to be used as food, or as a medicine. For other purposes, the larger quantity of oil, obtained by heat, will answer equally well.

Neither the seeds nor oil are apt to become rancid by keeping ; and as a proof of this, the oil before you,

which was sent from Carolina in April last; and, without any particular care, has undergone the heats of last summer, is yet perfectly sweet and good. These seeds furnish a pure, clear, well tasted oil; and, as far as appears to me, may be used for the same purposes, both in food and physic, as the oils of olives or almonds. It may be applied likewise to many, if not all, the æconomical purposes with the former of these.

But what greatly adds to the merit of what Mr. Brownrigg has informed us of, is the low price, at which this oil may be obtained. He says, that ten gallons of the pease, with the husks unshelled, will, without heat, yield one gallon of oil; if pressed with heat, they will afford a much larger quantity. The value of a bushel of these, in Carolina, does not exceed, as I have been informed, eight pence, or thereabouts. These will furnish a gallon of oil, the labour and apparatus to procure which, cannot cost much. This price will not amount to so much as a fourth of what the best Florence oil of olives costs in England. This therefore ought to be considered as valuable information, as, on account of its cheapness, a larger portion of mankind than at present may be permitted to use oil with their food, from whom it is now withheld on account of its price.

Great quantities of olive oil are sent from Europe to America. New England alone, Mr. Brownrigg says, annually consumes twenty thousand gallons. The quantities used in his majesty's other dominions in America must be prodigious. The oil from ground pease, of which any quantity desired may be raised, may and would supply this consumption of olive oil. It would likewise, I am persuaded, bear exportation

to any of those places where the oil of olives is usually carried ; and thereby become a valuable article of commerce.

After the oil has been expressed from the ground pease, they are yet excellent food for swine.

Presuming that a more intimate knowledge of the vegetable production before you, than what we were lately possessed of, would not be disagreeable to the Royal Society, I take the liberty of laying the present account before you ; and am,

GENTLEMEN,

Your most obedient,

humble servant,

William Watson.